

Appl. No. 10/633,268
Amdt. Dated December June 5, 2006
Reply to Office Action of March 14, 2006

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REMARKS/ARGUMENTS

Claims 1 - 23 are pending in the application.

Applicant's exhaust muffler, as defined in claim 1, includes a housing 2 that encloses at least one damping chamber 5 and has an inlet 3 for exhaust gases from the motor. The muffler also includes a resonator chamber 6 in the housing 2 that is substantially fluid-tight relative to the damping chamber 5; a resonance pipe 7 that conveys exhaust gases is guided through the resonator chamber 6; an acoustic link is provided between the resonance pipe 7 and the resonator chamber 6, and there is essentially no flow of fluid from the resonance pipe 7 into the resonator chamber 6.

CLAIM REJECTIONS - 35 USC § 102, 103

The Examiner has rejected claims 1 - 3, 8, 9 and 17 as being anticipated by Weiss, and claims 4 - 7, 10 - 13 and 19 - 23 as being obvious over Weiss.

Weiss relates to a muffler for use in conjunction with an open pipeline, in particular an exhaust pipe that leads from a vacuum pump and that normally conveys air as the noise-propagating fluid (see column 3, lines 43 and 44). In particular, the muffler of Weiss is intended to attenuate low frequencies (see column 2, lines 53 - 56). In contrast, as indicated above, the exhaust muffler of Applicant's claim 1 is for a motor in a handheld, portable implement, and in particular for the exhaust gases from the motor. Such internal combustion motors in handheld, portable implements are small, rapidly rotating motors. These motors result in high frequencies, which are to be attenuated by the exhaust muffler. In conformity therewith, the exhaust muffler of Applicant's claim 1 is designed to attenuate high frequencies in the range from 1000 Hz to approximately 2500 Hz (see the last two lines of page 1 of the specification of the instant application).

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The muffler of Weiss has an expansion chamber 16 and a resonator chamber 21 (column 4, line 15). As stated in the previously cited reference to column 2, lines 53 – 56, the expansion chamber and the resonator chamber are each tuned to low frequency noise, and in tandem operate to attenuate noise. The two chambers are interconnected via the exit tube 22 and the perforations 23 disposed therein. Weiss does not disclose a resonance pipe, in other words a pipe having a length that is tuned to the frequencies that are to be attenuated. Rather, to effect noise attenuation the two chambers 16 and 21 of Weiss operate in tandem, with each of the chambers being tuned to the sound waves that are to be attenuated.

It should be noted that the length of a resonance pipe is a function of the length of the sound waves that are to be attenuated. At low frequencies, the sound waves have a relatively great length, so that the length of a resonance pipe would have to be correspondingly great. However, the exit tube 22 of Weiss that interconnects the two chambers 16 and 21 is very short. It is respectfully submitted that there is no teaching or suggestion in Weiss that the exit tube 22 can in any way be a resonance pipe, since according to Weiss the noise attenuation is to be achieved by cooperation of the two chambers 16 and 21. In this connection, the number, size and locations of the perforations 23 in the exit tube 22, as well as the thickness of the exit tube 22, are highly interdependent upon the volume of the resonator chamber 21 (see column 4, lines 40 – 44). An adaptation to the length of the exit tube 22 is explicitly not addressed.

In contrast to the arrangement of Weiss, with Applicant's exhaust muffler as defined in claim 1, attenuation is achieved by the cooperation of the resonator chamber 6 and the resonance pipe 7. Due to the high frequencies that are to be

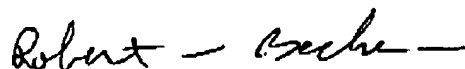
Appl. No. 10/633,268
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attenuated, the length of the resonance pipe 7 is considerably greater than the length of the exit tube of Weiss. Nonetheless, for example by disposing the resonance pipe in a direction of the height of the exhaust muffler (see Applicant's claim 16), the resonance pipe can be disposed in the interior of the exhaust muffler without affecting the overall size of the muffler.

In view of the foregoing discussion, it is respectfully submitted that Weiss cannot anticipate Applicant's claim 1 because, as required by MPEP section 2131, it does not show the identical invention in as complete detail as is contained in Applicant's claim 1. Nor, as also discussed above, does Weiss suggest all of Applicant's claim 1 limitations (MPEP 2143.03). The Examiner's attention is also directed to MPEP section 2116.01, which requires the consideration of all claim limitations when interpreting the claimed invention as a whole. Therefore, Applicant respectfully requests reconsideration of the allowability of Applicant's pending claims 1 – 23.

Respectfully submitted,



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